

We claim:

- 1 1. A method for transmitting DSI and NDSI over a communication link of a
- 2 communication network, the method comprising the step of:
- transmitting an initial DSI after applying a delay to the initial DSI where such delay is
- 4 based on parameters of received DSI.
- 1 2. The method of claim 1 wherein the delay is based on a determined periodicity of the
- 2 received DSI.
- 1 3. The method of claim 2 wherein the delay is further based on a defined length NDSI
- 2 being transmitted.
- 1 4. The method of claim 1 where the step of transmitting DSI comprises:
- transmitting NDSI in a non-fragmented manner when there are no DSI to be
- 3 transmitted;
- 4 monitoring for any received DSI;
- determining whether a received DSI is an initial DSI;
- transmitting the received DSI as per its periodicity when such received DSI is not
- 7 an initial DSI; and
- 8 performing a fragmentation operation for NDSI to be transmitted or for NDSI
- 9 being transmitted.
- 5. The method of claim 4 where the fragmentation operation performed is a dynamic
- 2 fragmentation operation.
- 6. The method of claim 4 where the step of determining whether a received DSI is an
- 2 initial DSI is based on information received from communication equipment.



- 7. The method of claim 4 where the step of transmitting the DSI as per its periodicity is
- 2 based on information received from communication equipment.
- 8. The method of claim 6 where the communication equipment is an IAD.
- 9. The method of claim 6 where the communication equipment is subscriber equipment.
- 1 10. The method of claim 7 where the communication equipment is an IAD.
- 1 11. The method of claim 7 where the communication equipment is subscriber equipment.
- 1 12. The method of claim 1 further comprising the steps of:
- 2 maintaining a list of transmission times for received initial DSI;
- establishing a transmission time for each received initial DSI; and
- 4 updating the list when an initial DSI is received or when a DSI flow is terminated.
- 1 13. An apparatus for transmitting DSI and NDSI over a communication link of a
- 2 communication network where the apparatus applies a delay to received initial DSI based
- on a determined periodicity of the received DSI and a defined length of NDSI being
- 4 transmitted.
- 1 14. The apparatus of claim 13 configured as an IAD coupled to subscriber equipment
- 2 and to an access network.
- 1 15. The apparatus of claim 13 configured as part of host equipment where such host
- 2 equipment is coupled to an access network and to a packet based communication
- 3 network.